


**TRANSMITTAL**

Electronic Version v1.1

Stylesheet Version v1.1.0

<b>Title of Invention</b>	<b>System and Method for Joint Maximal Ratio Combining Using Time Domain Based Signal Processing</b>	
<b>Application Number:</b> 10/707588  <b>Date:</b> 2003-12-23 <b>First Named Applicant:</b> Mr. Yohannes Tesfai  <b>Confirmation Number:</b> 1587 <b>Attorney Docket Number:</b> Cognio38US2		
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<b>Submitted by:</b>	<b>Elec. Sign.</b>	<b>Sign. Capacity</b>
Mr. Andrew Floam Registered Number: 34597	/daf/	Agent
<b>Documents being submitted</b> us-ids	<b>Files</b> IDS1-usidst.xml us-ids.dtd us-ids.xsl	
<b>Comments</b>		



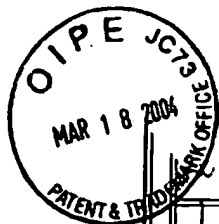
# ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

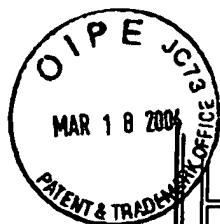
Stylesheet Version v18.0

Title of Invention	System and Method for Joint Maximal Ratio Combining Using Time Domain Based Signal Processing																														
<p>Application Number: 10/707588</p> <p>Confirmation Number: 1587</p> <p>First Named Applicant: Yohannes Tesfai</p> <p>Attorney Docket Number: Cognio38US2</p> <p>Art Unit: 2634</p> <p>Search string: ( 5982327 or 5274844 or 6177906 or 6369758 or 6037898 or 5437055 or 5507035 or 4599734 or 5491723 or 5394435 or 4639914 or 6157340 or 6124824 or 6122260 or 6195045 or 6147985 or 6044120 or 6038272 or 6349219 or 6327310 or 6307882 or 6058105 or 6442214 or 6144711 or 6317466 or 6097771 or 6377631 or 6298092 or 6377636 or 6351499 or 6400699 or 5610617 or 6252548 or 5577265 or 6211671 or 6008760 or 6370182 or 6362781 or 6377819 or 6400780 or 6331837 or 6687492 or 6473467 or 6636568 or 20030002450 or 20030139194 or 20020196842 or 20030032423 or 20030108117 or 20030125090 or 20020064246 or 20020141355 or 20020136170 or 20020001316 or 20020172269 or 20020158801 or 20020159537 or 20020039884 or 20020067309 or 20020127978 or 20020085643 or 20020118781 or 20020122383 or 20020111142 or 20020102950 or 20010046255 or 20020024975 or 20010012764 or 20010053143 or 20010015994 or 20020034191 or 20020072392 or 20020122501 ).pn.</p>																															
<p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td>1</td><td>5982327</td><td>1999-11-09</td><td>Veck et al.</td><td></td><td>342</td><td>390</td></tr><tr><td><input checked="" type="checkbox"/></td><td>2</td><td>5274844</td><td>1993-12-28</td><td>Harrison et al.</td><td></td><td>455</td><td>25</td></tr></tbody></table>								init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	<input checked="" type="checkbox"/>	1	5982327	1999-11-09	Veck et al.		342	390	<input checked="" type="checkbox"/>	2	5274844	1993-12-28	Harrison et al.		455	25
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	13	6124824	2000-09-26	Xu et al		342	174
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39	6377819	2002-04-23	Gesbert et al.			
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41	6331837	2001-12-18	Shattil			
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43	6473467	2002-10-01	Wallace et al		375	267
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Note: Applicant is not required to submit a paper copy of cited US Published Applications

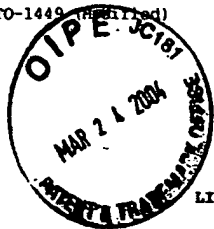
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	12	20020158801	2002-10-31	Crilly, Jr. et al			
	13	20020159537	2002-10-31	Crilly, Jr.			
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	22	20010046255	2001-11-29	Shattil			
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Signature

Examiner Name	Date
<i>Sophia Vlahos</i>	6/15/2007



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## LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.: Cognio38US2  
 SERIAL NO.: 10/707,588  
 APPLICANT(S): Tesfai et al.

GROUP ART UNIT: 2634  
 FILING DATE: December 23, 2003  
 TODAY'S DATE: March 23, 2004

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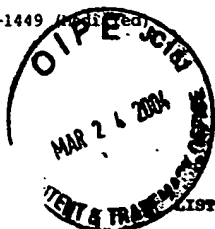
## FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class/Subclass	Translation (Yes or No)
SV AA	WO 02/03568	1/10/2002	PCT		
SV AB	WO 01/45300	6/21/2002	PCT		

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*Examiner Initial	Author, Title, Date, Pertinent Pages, Etc
SV BA	Bablan et al., "Optimum Diversity Combining and Equalization in Digital Data Transmission with Applications to Cellular Mobile Radio-PartII: Numerical Results", May 1992, IEEE Transactions on Communications, Vol. 30, No. 5, Pgs. 895-907
BB	Chuah et al., "Capacity of Multi-Antenna Array Systems in Indoor Wireless Environment", November 1998, IEEE Globecom
BC	Wallace et al., "Experimental Characterization of the MIMO Wireless Channel: Data Acquisition and Analysis", February 27, 2002, Department of Electrical and Computer Engineering, Brigham Young University
BD	Love et al., "Equal Gain Transmission in Multiple-Input Multiple-Output Wireless Systems", November 2002, Proceedings of IEEE Globecom, pgs. 1124-1128
BE	Vaidyanathan et al., "The Role of Lossless Systems in Modern Digital Signal Processing: A Tutorial," IEEE Transactions on Education, Vol. 32, August 1989, pp. 181-197.
BF	Raleigh et al., "Spatio-Temporal Coding for Wireless Communication," IEEE Transactions on Communications, Vol 46., No. 3, March 1998, pp. 357-366.
BG	Jungnickel et al., "Performance of a MIMO System with Overlay Pilots," IEEE GlobeCom 2001, pp. 594-598.
BH	BLAST High-Level Overview, Lucent Technologies, July 18, 2000
BI	Golden et al., "Detection Algorithm and Initial Laboratory Results Using V-BLAST space-time communication architecture," Electronic Letters, January 7, 1999, vol. 35, No. 1.



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SV	BJ	Golden et al., "V-BLAST: A High Capacity Space-Time Architecture for the Rich-Scattering Wireless Channel," Bell Laboratories, Lucent Technologies, Proc. Int'l Symposium on Advanced Radio Technologies, Boulder, CO, September 10, 1998.
	BK	Wolniansky et al., "V-BLAST: An Architecture for Realizing Very High Data Rates Over the Rich-Scattering Wireless Channel," Proc. ISSSE-98, Pisa, Italy, Sept. 29, 1998.
	BL	Chizhik et al., "Keyholes, Correlations, and Capacities of Multielement Transmit and Receiver Antennas," IEEE Transactions on Wireless Communications, Vol. 1, No. 2, April 2002, pp. 361-368.
	BM	Junqiang et al., "Spatial Multiuser Access with MIMO Smart Antennas for OFDM Systems," IEEE VTC '2001, September, 2001, pp. 1553-1557.
	BN	Stridh et al., "MIMO Channel Capacity on a Measured Indoor Radio Channel at 5.8 GHz," Proc. Of the Asilomar Conf. on Signals, Systems & Computers, Vol. 1, October, 2000, pp. 733-737.
	BO	Jungnickel et al., "A MIMO WLAN Based on Linear Channel Inversion," IEE Seminar-MIMO Communication Systems from Concept to Implementation, December, 2001, pp. 20/1-20/6.
	BP	Stridh et al., "Spatial Characterization of Indoor Radio Channel Measurements at 5 GHz," SAM '2000, March, 2000, pp. 58-62.
	BQ	Irner, Ralf et al., "MISO Concepts for Frequency-Selective Channels," 2002 International Zurich Seminar on Broadband Communications Access, February 19-21, 2002.
	BR	Choi, Ruly Lai-U et al., "MISO CDMA Transmission with Simplified Receiver for Wireless Communication Handsets," IEEE Transactions on Communications, Vol. 49, No. 5, May, 2002.
	BS	Meyer-Ottens, Sven et al., "Downlink Beamforming for W-CDMA Using Feedback and Interference Estimate," March 9, 2001.
	BT	Brunner, Christopher et al., "Downlink Beamforming for WCDMA Based on Uplink Channel Parameters," Proc. EPMCC 1999, pages 375-380, March 1999.
	BU	Yang, Jian et al., "On Joint Transmitter and Receive Optimization for Multiple-Input-Multiple-Output (MIMO) Transmission Systems," IEEE Transactions on Communications, Vol. 42, No. 12, December, 1994.
	BV	Ivrlac, Michel et al., "On Channel Capacity of Correlated MIMO Channels," ITG Fokusprojekt: Mobilkommunikation "Systeme mit intelligenten Antennen", Ilmenau, 2001.
	BW	Iserte, Antonio Pascual et al., "Pre-and Post-Beamforming in MIMO Channels Applied to HIPERLAN/2 and OFDM," IST Summit 2001 (IST Mobile Communications Summit), September, 2001.
	BX	Iserte, Antonio Pascual et al., "Joint Beamforming Strategies in OFDM-MIMO Systems," ICASSP 2002 (IEEE International Conference on Acoustics, Speech and Signal Processing), May, 2002.

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<input checked="" type="checkbox"/> CV	BY	Lee, Dennis et al., "Antenna Diversity for an OFDM System in a Fading Channel," Proceeding of IEEE MILCOM 1999, November, 1999, pages 1104-1109.
<input type="checkbox"/>	BZ	Jakes, William C., "Microwave Mobile Communications," Copyright 1974, pages 313-320 and 489-498.
<input type="checkbox"/>	CA	Yeh, Y.S., "An Analysis of Adaptive Retransmission Arrays in a Fading Environment," The Bell System Technical Journal, October, 1970, pages 1811-1825.
<input type="checkbox"/>	CB	Morgan, Samuel P., "Interaction of Adaptive Antenna Arrays in an Arbitrary Environment," The Bell System Technical Journal, January, 1965, pages 23-47.
<input type="checkbox"/>	CC	Aziz, Abdul M.K. et al., "Indoor Throughput and Range Improvements using Standard Compliant AP Antenna Diversity in IEEE 802.11a and ETSI HIPERLAN/2," Vehicular Technology Conference, 2002, VTC 2001, October 7-11, 2001, IEEE VTS 54 <sup>th</sup> , Volume 4, pages 2294-2298.
<input type="checkbox"/>	CD	Iserte, Antonio Pascual et al., "Iterative Algorithm for the Estimation of Distributed Sources Localization Parameters," SSP 2001 (11 <sup>th</sup> IEEE Workshop on Statistical Signal Processing), August, 2001.
<input type="checkbox"/>	CE	Heath, Robert W., Jr., "A Simple Scheme for Transmit Diversity Using Partial Channel Feedback," Signals, Systems & Computers, Conference Record of the Thirty-Second Asilomar Conference November 1-4, 1998, Vol. 2, pages 1073 - 1078.
<input type="checkbox"/>	CF	"Lucent's 'BLAST' chips to Take Off in Wireless Market," October 16, 2002, Semiconductor Business News.
<input checked="" type="checkbox"/> V	CG	"Lucent Technologies' Chips Poised to Bring 'BLAST' Multiple Input/Multiple Output Technology to Laptops, PDA's and Other Mobile Devices," October 16, 2002, Lucent Technologies.

EXAMINER

*Sophia Vlahos*

DATE CONSIDERED

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				APPLICANT Tesfai et al.			
				FILING DATE December 23, 2003		GROUP 2634	
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	4,599,734	07/1986	Yamamoto				
	4,639,914	01/1987	Winters				
	5,274,844	12/1993	Harrison et al.				
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V	6,044,120	03/2000	Bar-David et al.				
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↓		6,327,310	12/2001	Hochwald et al.			

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				FILING DATE December 23, 2003		GROUP 2634	
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SY		2001/0053143	12/2001	Li et al.			
		2002/0001316	01/2002	Hornsby et al.			
		2002/0024975	02/2002	Handler			
		2002/0034191	03/2002	Shattil			
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		2003/0002450	01/2003	Jafari et al.			
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V		2003/0048761	03/2003	Jarett			

EXAMINER <i>Sophia V. Hov</i>	DATE CONSIDERED <i>6/15/2007</i>
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		<b>FILING DATE</b> December 23, 2003	<b>GROUP</b> 2634
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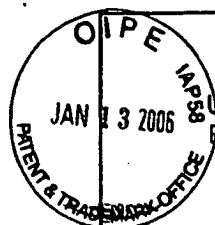
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		2002/0024975	02/2002	Hendler			
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<b>FORM PTO-1449</b>  <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (Use several sheets if necessary)		<b>ATTY. DOCKET NO.</b> COG-2-0980.02.US	<b>SERIAL NO.</b> 10/707,588
		<b>APPLICANT</b> Tesfai et al	
		<b>FILING DATE</b> December 23, 2002	<b>GROUP</b> 2634
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